

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions or listings of claims for this application.

Listing of Claims:

Claims 1-25 (Canceled).

26. (New) Method for producing an induced serum composition from blood, wherein blood cells contained in blood are transiently or stably transformed with at least one nucleic acid molecule, preferably a nucleic acid molecule which codes for at least one therapeutically and/or diagnostically important protein or an effector molecule, and an induced blood composition is obtained whose blood cells transiently or stably express and secrete the therapeutically and/or diagnostically important protein and/or the effector molecule, and wherein the cells are then separated from the serum and an induced serum composition is obtained.

27. (New) Method according to claim 1, wherein the induced blood composition is a blood composition which contains a therapeutically and/or diagnostically important protein in higher concentration than an untransformed blood composition, for example cytokines such as natural or modified IL-1Ra (IRAP, Interleukin-1 receptor antagonist).

28. (New) Method according to claim 1, wherein the induced blood composition is a blood composition in whose blood cells at least one effector molecule, preferably protein or RNA, is expressed, which in untransformed blood cells is expressed not at all, or not in this amount.

29. (New) Method according to claim 1, wherein the blood is removed from a patient in a removal system and the blood is transformed with the at least one nucleic acid molecule in the removal system, without the blood cells to be transformed being separated from other blood components.

30. (New) Method according to claim 1, wherein blood is removed from a patient with a removal system, blood cells, particularly nucleated cells, are separated from other blood components, the blood cells are transformed and are incubated in a medium with or without serum or in pure serum.

31. (New) Method according to claim 1, wherein the blood is removed from a patient with a removal system, filled into another vessel and transformed in this vessel without the blood cells to be transformed being separated from other blood components.

32. (New) Method according to claim 1, wherein the nucleic acid molecule, particularly DNA or RNA, immobilized on solid supports, for example large or small beads, for example of glass, or magnetic small spheres or the wall of the syringe, is used for transformation.

33. (New) Method according to claim 1, wherein the nucleic acid molecule, particularly DNA or RNA, possibly labeled with a labeling substance, is used for the transformation.

34. (New) Method according to claim 1, wherein the nucleic acid molecule, particularly DNA or RNA, is transformed with an additive which increases the transfection and/or expression of the nucleic acid molecule.

35. (New) Method according to claim 1, wherein the nucleic acid molecule is transformed by electroporation.

36. (New) Method according to claim 1, wherein the nucleic acid molecule codes for a molecule which induces, promotes, or regulates the expression of a protein belonging to own body, for example, an anti-sense construct, RNA element, transcription factor, or a transposable element.

37. (New) Method according to claim 1, wherein the nucleic acid molecule is contained in a vector, for example, in a plasmid or in a virus.

38. (New) Method according to claim 1, wherein the nucleic acid molecule is present functionally connected to at least one regulatory element, for example, a promoter, enhancer, or intron, particularly a blood cell specific regulatory element.

39. (New) Method according to claim 1, wherein the nucleic acid molecule is present, functionally connected to nucleotide section coding for a signal peptide for protein secretion from the cell.

40. (New) Method according to claim 1, wherein the at least one nucleic acid molecule is transformed using liposomes, viral vectors or bound to micro glass beads.

41. (New) Method for the transformation of cells, particularly of cells contained in blood, for example blood cells, with nucleic acid molecules, wherein the cells or blood cells are brought into contact with the nucleic acid molecules, the cells or the blood cells present in the blood are transformed and stably or transiently transformed cells or blood cells are obtained, and wherein the nucleic acid molecules are covalently bound, in particular with acid lability, to micro glass beads.

42. (New) Method for treating the human or animal body, wherein blood is removed, preferably with a syringe, from the human or animal body, a method according to claims 1 is performed and the induced serum composition is reapplied to the human or animal body after separation of the transformed blood cells and blood components.

43. (New) Use of micro glass beads, particularly micro glass beads having bound nucleic acids, for the transformation of whole blood, in particular nucleated cells in whole blood, in particular for the expression and secretion of proteins in blood, particularly blood cells.

44. (New) Use of micro glass beads, particularly micro glass beads having bound nucleic acids, for the transformation of biological cells, particularly animal, plant, or human cells.

45. (New) Use of blood, particularly whole blood, for the transformation of blood cells with nucleic acid molecules coding for therapeutically and/or diagnostically important proteins or effector molecules.

46. (New) Use of blood, particularly whole blood, for the transformation of blood cells with nucleic acid molecules, coding for therapeutically and/or diagnostically important proteins or effector molecules, for the treatment of leukemia.

47. (New) Use of blood, particularly whole blood, for the transformation of blood cells with nucleic acid molecules coding for therapeutically and/or diagnostically important proteins or effector molecules, for the treatment of traumatic, degenerative, chronic inflammatory diseases of the nervous system.

48. (New) Use of blood, particularly whole blood, for the transformation of blood cells with nucleic acid molecules coding for therapeutically and/or diagnostically important proteins or effector molecules, for the treatment of traumatic, degenerative, chronic inflammatory diseases of the motor apparatus.

49. (New) Use of blood, particularly whole blood, for the transformation of blood cells with nucleic acid molecules coding for therapeutically and/or diagnostically important proteins or effector molecules, for the treatment of traumatic, degenerative, chronic inflammatory diseases of the internal organs.

50. (New) Use of blood for the production of a medicament for the transformation of blood cells of the blood with nucleic acid molecules coding for therapeutically and/or diagnostically important proteins or effector molecules.

51. (New) Use of blood for the production of a medicament kit for the treatment of leukemia.

52. (New) Use of blood for the production of a medicament for the treatment of traumatic, degenerative, chronic inflammatory diseases of the nervous system.

53. (New) Use of blood for the production of a medicament for the treatment of traumatic, degenerative, chronic inflammatory diseases of the nervous system.

54. (New) Use of blood for the production of a medicament for the treatment of traumatic, degenerative, chronic inflammatory diseases of the nervous system.

55. (New) Use of nucleic acid molecules, particularly coding for therapeutically and/or diagnostically important protein or effector molecules for the transformation of blood or blood cells according to the method of claim 16 and the expression and secretion of therapeutically and/or diagnostically important proteins or effector molecules.

56. (New) Use of nucleic acid molecules, particularly coding for therapeutically and/or diagnostically important protein or effector molecules for the transformation of blood or blood cells and the expression and secretion of therapeutically and/or diagnostically important proteins or effector molecules for the treatment of leukemia

57. (New) Use of nucleic acid molecules, particularly coding for therapeutically and/or diagnostically important protein or effector molecules for the transformation of blood or blood cells and the expression and secretion of therapeutically and/or diagnostically important proteins or effector molecules for the treatment of traumatic, degenerative, chronic inflammatory diseases of the nervous system.

58. (New) Use of nucleic acid molecules, particularly coding for therapeutically and/or diagnostically important protein or effector molecules for the transformation of blood or blood cells and the expression and secretion of therapeutically and/or diagnostically important proteins or effector molecules for the treatment of traumatic, degenerative, chronic inflammatory diseases of the motor apparatus.

59. (New) Use of nucleic acid molecules, particularly coding for therapeutically and/or diagnostically important protein or effector molecules for the transformation of blood or blood cells and the expression and secretion of therapeutically and/or diagnostically important proteins or effector molecules for the treatment of traumatic, degenerative, chronic inflammatory diseases of the internal organs.

60. (New) Use of nucleic acid molecules, particularly coding for therapeutically and/or diagnostically important protein or effector molecules for the production of a medicament for the transformation of blood or blood cells according to the method of claim 16.

61. (New) Use of nucleic acid molecules, particularly coding for therapeutically and/or diagnostically important proteins or effector molecules, for the production of medicaments for the treatment of leukemia.

62. (New) Use of nucleic acid molecules, particularly coding for therapeutically and/or diagnostically important proteins or effector molecules, for the production of medicaments for the treatment of traumatic, degenerative, chronic inflammatory diseases of the nervous system.

63. (New) Use of nucleic acid molecules, particularly coding for therapeutically and/or diagnostically important proteins or effector molecules, for the production of a



medicament for the treatment of traumatic, degenerative, chronic inflammatory diseases of the motor apparatus.

64. (New) Use of nucleic acid molecules, particularly coding for therapeutically and/or diagnostically important proteins or effector molecules, for the production of medicaments for the treatment of traumatic, degenerative, chronic inflammatory diseases of the internal organs.